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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,654	08/21/2003	Chee-Keong Chong	70030431-1	9939

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AGILENT TECHNOLOGIES, INC.

Legal Department, DL429

Intellectual Property Administration

P.O. Box 7599

Loveland, CO 80537-0599

EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,654

Applicant(s)

CHONG ET AL.

Examiner

Davienne Monbleau

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaneda et al. (U.S. 5,537,510).

Regarding Claim 1, *Kaneda* discloses in Figures 2A and 4 a cylindrical encoder comprising a cylinder having a coding surface (G2) disposed about a rotational axis, the coding surface (G2) having a series of code lines that spiral about the rotational axis, and an imaging system (1, 3a, 3b) sensing movement of the series of code lines when the cylinder rotates about the rotational axis.

Regarding Claim 7, it is inherent that the resolution is proportional to the radius of the cylinder and inversely proportional to the effective pitch.

Regarding Claims 2 and 8, *Kaneda* discloses in Figure 4 that the coding surface (G2) is on the outer surface of the cylinder and the imaging system (1, 3a, 3b) is external to the cylinder.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneda.

Regarding Claims 3 and 9, *Kaneda* does not teach that the coding surface is on the inner surface of the cylinder and that the imaging system is internal to the cylinder. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to rearrange the coding surface and the imaging system to be internal of the cylinder to accommodate various space constraints and/or provide for other external optical/electronic components.

Regarding Claims 4 and 10, *Kaneda* teaches that the series of code lines includes alternating optically transmissive bands and optically non-transmissive bands and that the imaging system includes an optical emitter (1) and an optical detector (3a and 3b) external to the cylinder. *Kaneda* does not teach that said optical emitter (1) is internal to the cylinder. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to put the optical emitter internal to the cylinder to detect transmitted diffracted beams rather than reflective, as an alternative means to detect the angular rotation of the cylinder.

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Regarding Claims 5 and 11, *Kaneda* teaches that the series of code lines includes alternating optically transmissive bands and optically non-transmissive bands and that the imaging system includes an optical emitter (1) external to the cylinder and an optical detector (3a and 3b). *Kaneda* does not teach that said optical detector (3a and 3b) is internal to the cylinder. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to put the optical detector internal to the cylinder to detect transmitted diffracted beams rather than reflective, as an alternative means to detect the angular rotation of the cylinder.

Regarding Claim 6, *Kaneda* teaches in Figure 4 and in columns 4-5 that the code lines have a predesignated pitch (P) and are at a predesignated angle relative to the rotational axis, which results in an effective pitch for the code lines. *Kaneda* does not teach that this effective pitch is greater than the predesignated pitch. It would have been obvious, however, to one of ordinary skill in the art at the time of the invention to choose a specific pitch and angle to result in a desired effective pitch since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Benz et al. (U.S. 6,483,104) teaches in Figure 8 an optical encoder that has light and dark fields alternating within a spiral groove.

Black et al. (U.S. 3,935,447) teaches an angular motion detector comprising an optically apertured disk with spiral grooves.

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Blasing (U.S. 6,552,330) teaches an angular position sensor comprising an encoder disk that has angled optical wedges.

Schroder (U.S. 2004/0025357) teaches a rotation detector comprising a cylinder with a cross grating on its surface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Davienne Monbleau

DNM


DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800